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PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	:	Roquemore
For	:	Dual-Communication Electronic Shelf Label System and Method
Serial No.	:	10/659,661
Filed	:	09/10/2003
Group	:	2635
Examiner	:	Au, Scott D.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on the date set forth below:

Signed: Marianna Tortorelli

Name: Marianna Tortorelli

Date: August 7, 2006

Durham, North Carolina
August 7, 2006

MAIL STOP APPEAL BRIEF – PATENTS
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL OF APPELLANT'S BRIEF

Dear Sirs:

1. Transmitted herewith is the APPEAL BRIEF in this application with respect to the Notice of Appeal filed on June 6, 2006.

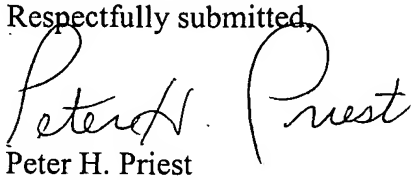
2. The Applicant is other than a small entity.

3. Pursuant to 37 CFR 1.17(f) the fee for filing the Appeal Brief is $500.00.

   [x] The Commissioner is hereby authorized to charge the fee of $500 to NCR Deposit Account No. 14-0225.

[x] The Commissioner is hereby authorized to charge any additional fees which may be required or credit any overpayment to NCR Deposit Account No. 14-0225.

Respectfully submitted,



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APPELLANT'S BRIEF

Sir:

1. The Real Party In Interest

The real party in interest is the assignee, NCR Corporation.

2. Related Appeals and Interferences

None.

3. Status of the Claims

This is an appeal from the 02/07/2006 final rejection of claims 1-16. Claims 1-8 were rejected under 35 U.S.C. § 103(a) as unpatentable over Dalton U.S. Patent No. 6,419,154

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("Dalton") in view of Matsushita U.S. Patent No. 6,762,674 ("Matsushita") and further in view of Halperin U.S. Patent No. 6,318,631 ("Halperin"). Claims 10-11 and 13-16 were rejected under 35 U.S.C. § 103(a) as unpatentable over Dalton in view of Matsushita and further in view of Neumark U.S. Patent No. 6,736,316 ("Neumark"). Claims 9 and 12 were rejected under § 103(a) as unpatentable over Dalton in view of Matsushita and further in view of Neumark and Halperin. Pending claims 1-16 are the subject of this appeal.

4. Status of Amendments

The claims stand as last amended on November 30, 2005. No Amendment After Final has been filed. A Response and Request for Reconsideration was filed on May 3, 2006, but did not include any amendments to the claims.

5. Summary of Claimed Subject Matter

The present invention advantageously provides methods and apparatus for dual communication between a base station and an electronic shelf label, using wireless uplink and downlink communication operating in different modes. In one aspect, the invention of claim 1 comprises a base station including first wireless downlink communication circuitry and first wireless uplink communication circuitry operating in a different mode than the first wireless downlink communication circuitry, as shown at (14), (26), and (24), and discussed at p. 3, lines 9-24, for example. The invention of claim 1 further comprises a plurality of electronic shelf labels, each electronic shelf label including second wireless downlink communication circuitry for receiving messages from the first wireless downlink communication circuitry of the base station, and second wireless uplink communication circuitry for sending messages directly to the first wireless uplink communication circuitry of the base station, as shown at (16), (34), and (36), and discussed at p. 4, lines 15-17, for example, wherein the base station operates to concurrently

transmit a first message to a first electronic shelf label and receive a second message from a second electronic shelf label, as discussed at p. 4, lines 7-14, for example. In another aspect, the invention of claim 9 comprises an electronic shelf label system employing duplex data communication between a base station and a plurality of electronic shelf labels. The system comprises a base station including first wireless downlink communication circuitry and first wireless uplink communication circuitry operating at a substantially lower frequency than the first wireless downlink communication circuitry, as shown at (16), (24), and (26), and discussed at p. 3, lines 14-16 and lines 29-31, for example. The invention of claim 9 further comprises a plurality of electronic shelf labels, each electronic shelf label including second wireless downlink communication circuitry for receiving messages from the first wireless downlink communication circuitry of the base station, and second wireless uplink communication circuitry for directly sending messages to the first wireless uplink communication circuitry of the base station, as shown at (16), (34) and (36), and discussed at p. 4, lines 15-17, for example. The invention of claim 9 further comprises a computer coupled to the base station via a cable for sending messages to the electronic shelf label via the first and second wireless downlink communication circuitries, as shown at (12), (50), (24), (52), and (34), and discussed at p. 2, line 30-p. 3, line 16, for example, and for receiving messages from the electronic shelf label via the first and second wireless uplink communication circuitries, as shown at (12), (50), (26), (54), and (36), and discussed at p. 2, line 30-p. 3, line 16, for example, wherein the base station operates to concurrently transmit a first message to a first electronic shelf label and receive a second message from a second electronic shelf label, as discussed at p. 4, lines 7-14, for example.

In another aspect, the invention of claim 10 comprises a method of duplex data communication between a base station and a plurality of communicating with an electronic shelf

labels comprising the steps of wirelessly sending a first message in a first time period to a first electronic shelf label by utilizing first downlink communication circuitry in the base station, as shown at (54) and (56) and discussed at p. 5, lines 6-9, for example. The invention of claim 10 further comprises receiving the message utilizing second downlink communication circuitry in the first electronic shelf label, as shown at (58) and discussed at p. 5, lines 10-11, for example, wirelessly sending a response to the base station in a second time period using a different mode of communication utilizing first uplink communication circuitry in the electronic shelf label, as shown at (62) and discussed at p. 5, lines 17-24, for example, receiving the response in a second time period from the first electronic shelf label by utilizing second uplink communication circuitry in the base station, as shown at (64) and discussed at p. 5, lines 28-29, for example, and wirelessly sending a second message during the second time period to a second electronic shelf label utilizing the first downlink communication circuitry in the base station, as discussed at p. 4, lines 7-14.

In another aspect, the invention of claim 12 comprises a method of concurrently communicating with a plurality of electronic shelf labels comprising the steps of sending first and second messages to a base station through a cable by a computer, as shown at (12), (50), and (14), and discussed at p. 3, lines 9-12, for example, wirelessly sending the first message to a first electronic shelf label using a first frequency and first downlink communication circuitry in the base station, as shown at (14), (24), and (52), and discussed at p. 3, lines 9-31, for example, receiving the first message by second downlink communication circuitry in the first electronic shelf label, as shown at (16) and (34) and discussed at p. 4, lines 24-25, for example, wirelessly sending a response to the base station at a second frequency different than the first frequency by utilizing first uplink communication circuitry in the first electronic shelf label, as shown at (16),

(36), and (54), and (62), and discussed at p. 5, lines 17-24, receiving the response by second uplink communication circuitry in the base station, as shown at (14), (26), and (64), and discussed at p. 5, lines 28-29 and p. 3, lines 23-24, for example, transmitting the second message to a second electronic shelf label using the first frequency and first down link communication circuitry in the base station concurrently with said step of receiving the response, as shown at (14), (24), and (52), and discussed at p. 4, lines 7-14, for example, and receiving the response through the cable by the computer, as shown at (66) and discussed at p. 5, lines 30-31.

6. Grounds of Rejection to be Reviewed on Appeal

Claims 1-8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dalton in view of Matsushita. Claims 10, 11, and 13-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dalton in view of Matsushita and further in view of Neumark. Claims 9 and 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Dalton in view of Matsushita and further in view of Neumark and Halperin.

7. Argument

The final rejection under 35 U.S.C. § 103 did not follow M.P.E.P. § 706.02(j) which states:

> After indicating that the rejection is under 35 U.S.C. 103, the Examiner should set forth...the difference or differences in the claim over the applied reference,...the proposed modification of the applied reference(s) necessary to arrive at the claimed subject matter, and ... an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modification.

As will be illustrated below, the claims of the present invention are not taught by and are not obvious in view of the references relied upon by the Examiner.

35 U.S.C. § 103 which governs obviousness indicates that "differences between the subject matter sought to be patented and the prior art" are to be assessed based upon "the subject

matter as a whole". Analyzing the entirety of each claim, the rejections under 35 U.S.C. § 103 are not supported by the relied upon art as addressed further below.

Only after an analysis of the individual references has been made can it then be considered whether it is fair to combine teachings. However, as addressed further below, fairness requires an analysis of failure of others, the lack of recognition of the problem, and must avoid the improper hindsight reconstruction of the present invention. Such an analysis should consider whether the modifications are actually suggested by the references rather than assuming they are obvious.

The 35 U.S.C. § 103 rejections made here pick and choose elements from multiple separate references, none of which presents any motivation for making the suggested combination. This approach constitutes impermissible hindsight and must be avoided. As required by 35 U.S.C. § 103, claims must be considered as a whole. When so considered, the present claims are not obvious.

A. Rejection under 35 U.S.C. § 103 over Dalton, Matsushita and Halperin

Claim 1

Turning to the references relied upon, Dalton, Matsushita and Halperin are markedly different from the present invention and address problems only peripherally related to the solutions provided by the present invention. Dalton is assigned to the assignee of the present invention and represents one example of the present State of the Art briefly discussed in the Background of the present invention. Dalton teaches a wireless ESL communication system including a relay unit having multiple transmit antennas connected to a single RF transmitter. The transmit power from the relay unit is distributed to the electronic shelf labels by the

antennas, with each electronic shelf label receiving a portion of the transmit power generated by the relay station.

Matsushita teaches a relay station disposed between a communication base station and a plurality of ESLs. When the base station communicates with ESLs, the relay station receives the communication and identifies the ESLs with which communication is conducted. The relay station monitors responses from the ESLs and identifies ESLs that did not receive proper communication from the base station. The relay station transmits identifiers of these ESLs to the base station.

Halperin teaches a scanning communicator, capable of scanning bar codes and carrying on communication with electronic labels, such as ESLs. In one embodiment, Halperin teaches the use of multiple optical transmitters and receivers, allowing for one transmitter/receiver pair to be placed in bar code scanning mode, while another transmitter/receiver pair is concurrently placed in electronic label communications mode.

Unlike the cited art, claim 1 claims an electronic shelf label system employing duplex data communication. A base station includes uplink and downlink communication circuitry operating in different modes, and each of a plurality of electronic shelf labels includes uplink and downlink circuitry to allow for communication with corresponding circuitry in the base station. The base station is capable of transmitting and receiving messages concurrently.

Claim 1 recites as follows:

1. An electronic shelf label system employing duplex data communication comprising:

a base station including first wireless downlink communication circuitry and first wireless uplink communication circuitry operating in a different mode than the first wireless downlink communication circuitry; and

a plurality of electronic shelf labels, each electronic shelf label including second wireless downlink communication circuitry for receiving messages from the first wireless downlink communication circuitry of the base station, and second wireless uplink communication circuitry

for sending messages directly to the first wireless uplink communication circuitry of the base station,

wherein the base station operates to concurrently transmit a first message to a first electronic shelf label and receive a second message from a second electronic shelf label.

None of the cited references, nor any combination thereof, teaches or makes obvious these limitations in the claimed combination. Dalton does not address concurrent communication between a base station and a plurality of ESLs utilizing two different communication modes as presently claimed. It does not appear to recognize the problem of insufficient bandwidth, nor does it suggest a solution thereto. Dalton recognized that downlink and uplink technologies may be different at col. 1, lines 29-38, as noted by the Examiner and as further discussed at col. 3, lines 3-16. However, Dalton does not discuss concurrent use of downlink and uplink paths. Dalton is directed to, and specifically addresses, an arrangement in which a relay unit includes a single transmitter connected to multiple transmit antennae to provide improved RF transmission while maintaining lower costs. Col. 1, lines 53-56.

Matsushita appears to be incapable of the presently claimed operation as its ESLs do not communicate directly with the base station, but rather communicate indirectly through intermediate relays as discussed further below. The Official Action specifically relies upon col. 5, lines 16-67 of Matsushita. That text describes the communication of base station 16 with an ESL at 2.4 GHz, as well as communication by the ESL with a radio relay station at 300 MHz. Matsushita's Fig. 5 shows details of its relay stations at 13-1 to 13-k. This relay station includes a single 2.4 GHz transmission section 137 which transmits ID information for an ESL transmitting a negative response to the base station. Col. 5, line 61-col. 6, line 19. Similarly, details of Matsushita's base station 16 are shown in Fig. 3. That base station has a single 2.4 GHz transmission section 164 and a single 2.4 GHz reception section 165. Col. 4, lines 63-67.

To sum up, Matsushita lacks the circuitry to support concurrent communication between a base station and plural ESLs utilizing two modes of communicating as presently claimed. All of the wireless communication by the Matsushita base station appears to utilize the single 2.4 GHz mode, and there appears to be no basis to understand Matsushita as addressing concurrent transmission and reception by the base station. Moreover, the relay station of Matsushita does not mediate communication between the base station and the ESLs, but instead identifies ESLs with which communication by the base station has failed in some way. The relay station monitors transmissions from the base station to the ESLs and identifies ESLs within its group to which a transmission has been sent. If an ESL has received its identification information, but has not received other elements of a transmission, such as price information, it transmits a weak radio signal to the relay station of its own group, and if it has failed to receive its own identifier, it does not send any response information. The relay station identifies ESLs in its group from which weak responses have been received, or which have failed to respond at all, even though the relay station has detected transmissions to these ESLs from the base station. The relay station then sends appropriate messages to the base station to identify the ESLs that have not properly received the transmissions from the base station. See Matsushita, col. 6, line 25-col. 7, line 37. Matushita thus teaches monitoring of communication as received by the ESLs and notification of the base station when ESLs do not properly receive communication, not concurrent communication between a base station and an ESL.

Halperin teaches a scanning communicator capable of reading bar codes and communicating with electronic labels, not a process or mechanism for carrying on concurrent communication with an electronic label. Halperin purports "to provide novel apparatus and methods for providing synergy between bar code and electronic labeling systems". Halperin col.

2, lines 25-30. To this end, he describes a scanning communicator 10 which can illuminate with light beams 14 and 16 a bar code 18 and/or an electronic label 20. Halperin col. 4, lines 36-40. To the extent he addresses communication in any detail, he does so in the context of communication by this communicator 10. The communicator's optical receiver 22 detects light reflection 24 from a bar code 18 or a light emission 26 from an electronic label 20. Col. 4, lines 40-42. Optical transmitter 12 and optical receiver 22 of scanning communicator 10 also communicate with a central computer. Col. 4, lines 50-52. In one embodiment, separate bar code scan and electronic label communication modes are employed to scan bar codes and communicate with electronic shelf labels, respectively. Col. 4, lines 54-66.

In this context, the Halperin text at col. 5, lines 55-63, relied upon by the final Official Action, indicates "one or more additional optical transmitter 36 and optical receiver 38" may be employed "concurrently with optical transmitter 12 and optical receiver 22" so that concurrent bar code scanning and communication with an electronic label by **scanning communicator 10** can occur. Halperin Fig. 4 shows such an arrangement with an optical transmitter 82 for scanning a bar code and an optical transmitter 84 for sending a beam of light for communicating with an electronic label. Halperin, col. 8, lines 43-47. Different frequencies of 10 kZ and 30 kZ are suggested. Col. 8, line 64-col. 9, line 5.

Such operation does not meet the terms of claim 1, nor does it make these claims obvious. The concurrent transmission of claim 1 is "a first message" from a base station "to a first electronic shelf label" and "a second message" received by the base station "from a second electronic shelf label". Instead, Halperin teaches the provision of multiple optical transmitters and receivers, to allow for remaining in bar code scanning mode as well as communication mode, in order to avoid having to switch back and forth between modes. Halperin does not

concurrently transmitting and receiving messages. Firstly, Halperin does not explicitly teach that scanning of a bar code and communication with an electronic label is carried out at the same time, merely that the use of multiple transmitter/receiver pairs allows the communicator to remain in both modes simultaneously. Secondly, scanning a bar code cannot properly be said to be receiving a message. When the scanning communicator scans a bar code, it is not receiving a transmission or communication; it is reading and decoding a symbol. This teaching of Halperin does not teach or make obvious the invention of claim 1, which comprises simultaneously receiving and transmitting messages using two communication modes. Far from suggesting such communication, Halperin states "Electronic shelf label 50 may also comprise a transceiver 55 for wired or wireless communication, such as with a central computer (not shown) as is known in the art." Col. 6, lines 9-11. As such, if anything, Halperin either teaches away from the present claims or represents a failure of others. Either of these alternatives, teaching away or a failure of others, is an indicia of nonobviousness rather than obviousness. Claim 1 therefore defines over the cited art and should be allowed.

Claims 2-8

Claims 2-8 are independent claims based directly or indirectly on claim 1, incorporating all of the limitations thereof and adding further limitations thereto. In addition, the dependent claims address a number of combinations of limitations not found in the applied references. See, for example, claims 3-8, which address specific mechanisms for differentiating concurrently conducted transmission and reception. Such features are not addressed by Dalton, Matsushita, or Halperin. It is clear that the relied upon references do not anticipate and do not render obvious the various mechanisms for carrying out concurrent transmission and reception as claimed.

B. Rejection under 35 U.S.C. § 103 over Dalton, Matsushita and Neumark

Claim 10

The Official Action rejected claims 10, 11, and 13-16 under 35 U.S.C. §103(a) as unpatentable over Dalton and Matsushita, and further in view of Neumark. As discussed above with respect to claim 1, Claim 10 teaches concurrent communication between a communication base station and a plurality of ESLs. Claim 10 recites as follows

10. A method of duplex data communication between a base station and a plurality of communicating with an electronic shelf labels comprising the steps of:

a) wirelessly sending a first message in a first time period to a first electronic shelf label by utilizing first downlink communication circuitry in the base station;

b) receiving the message utilizing second downlink communication circuitry in the first electronic shelf label;

c) wirelessly sending a response to the base station in a second time period using a different mode of communication utilizing first uplink communication circuitry in the electronic shelf label;

d) receiving the response in a second time period from the first electronic shelf label by utilizing second uplink communication circuitry in the base station; and

e) wirelessly sending a second message during the second time period to a second electronic shelf label utilizing the first downlink communication circuitry in the base station.

Steps d) and e) claim receiving a response and sending a message during a second time period, that is, the same time period. As noted above with respect to claim 1, neither Dalton nor Matsushita teaches or makes obvious such concurrent communication, and adding Neumark to Dalton and Matsushita does not cure their deficiencies as references with respect to claim 1.

Neumark teaches an inventory control system, using a combination of identification labels positioned in relation to inventory objects. In combination, the identification labels are able to determine their locations in relation to a given point in space. The Official Action relies on Neumark, col. 4, lines 22-39, which include discussion of the use of identification labels as part of a network of Ultra Wide Band units. Neumark states at col. 4, lines 21-23 that it uses "a network of ultra wide band (UWB) units capable, as a group, of precisely locating objects in three-dimensional space". Further, "[m]iniature units may be built into electronic shelf units".

Col. 4, lines 27 and 28. The UWB network may comprise a wired or wireless simplex or duplex electronic labeling system". Col. 4, lines 29-31. "In duplex systems the label responds with an acknowledgment when addressed." Col. 4, lines 38 and 39. At col. 6, lines 40-44, Neumark further states "Signals are sent, on demand, from the first transceiving means 40 to the data processing means 50 to confirm satisfactory operation of the identification labels". Neumark also adds by "precisely timing these transmissions, and by using matched antennas at the nodes, highly efficient communication is possible, as is described in the references." Col. 7, lines 57-59. This discussion while using the word "duplex" appears to describe an arrangement in which a label is addressed at a first time and them it responds at a second time, or in other words, in a non-concurrent operation. At col. 8, lines 8-15, Neumark further addresses its location process in a similar manner. A location request is transmitted. It is received by all of the labels 30. The labels corresponding to the identification code responds and all other labels remain silent.

While Neumark admittedly uses the word "duplex" as noted above, it does not disclose both "receiving the response in a second time period from the first electronic shelf label" and "sending a second message during the second time period to a second electronic shelf label as claimed in claim 10. Claim 10 therefore defines over the cited art and should be allowed.

Claims 11, 13-16

Claims 11 and 13-16 are independent claims based directly or indirectly on claim 10, incorporating all of the limitations thereof and adding further limitations thereto. In addition, the dependent claims address a number of combinations of limitations not found in the applied references. See, for example, claims 13-16, which address specific mechanisms for differentiating concurrently conducted transmission and reception. Such features are not addressed by Dalton, Matsushita, or Neumark. It is clear that the relied upon references do not

anticipate and do not render obvious the various mechanisms for carrying out concurrent transmission and reception as claimed.

C. Rejection under 35 U.S.C. § 103 over Dalton, Matsushita, Neumark and Halperin Claims 9 and 12

The Official Action rejected claims 9 and 12 under 35 U.S.C. § 103(a) as unpatentable over Dalton in view of Matsushita and further in view of Neumark and Halperin. Claim 9 reads as follows:

9. An electronic shelf label system employing duplex data communication between a base station and a plurality of electronic shelf labels, the system comprising:

a base station including first wireless downlink communication circuitry and first wireless uplink communication circuitry operating at a substantially lower frequency than the first wireless downlink communication circuitry;

a plurality of electronic shelf labels, each electronic shelf label including second wireless downlink communication circuitry for receiving messages from the first wireless downlink communication circuitry of the base station, and second wireless uplink communication circuitry for directly sending messages to the first wireless uplink communication circuitry of the base station; and

a computer coupled to the base station via a cable for sending messages to the electronic shelf label via the first and second wireless downlink communication circuitries, and for receiving messages from the electronic shelf label via the first and second wireless uplink communication circuitries,

wherein the base station operates to concurrently transmit a first message to a first electronic shelf label and receive a second message from a second electronic shelf label.

Claim 12 reads as follows:

12. A method of concurrently communicating with a plurality of electronic shelf labels comprising the steps of:

a) sending first and second messages to a base station through a cable by a computer;

b) wirelessly sending the first message to a first electronic shelf label using a first frequency and first downlink communication circuitry in the base station;

c) receiving the first message by second downlink communication circuitry in the first electronic shelf label;

d) wirelessly sending a response to the base station at a second frequency different than the first frequency by utilizing first uplink communication circuitry in the first electronic shelf label;

e) receiving the response by second uplink communication circuitry in the base station;

f) transmitting the second message to a second electronic shelf label using the first frequency and first down link communication circuitry in the base station concurrently with said step of receiving the response; and

g) receiving the response through the cable by the computer.

Both of these claims address concurrent communication between a base station and one or more electronic shelf labels. As noted above with respect to claims 1 and 10, these limitations are not taught or made obvious by Dalton, Matsushita, Halperin, Neumark, or a combination thereof. Claims 9 and 12 therefore define over the cited art and should be allowed.

D. The Examiner's Findings of Obviousness Are Also Contrary to Law of the Federal Circuit

As shown above, the invention claimed is not suggested by the relied upon prior art. The references cited by the Examiner, if anything, teach away from the present invention. It is only in hindsight, after seeing the claimed invention, that the Examiner could combine the references as the Examiner has done. This approach is improper under the law of the Federal Circuit, which has stated that "[w]hen prior art references require selective combination by the Court to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself." Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 U.S.P.Q. 2d 1434, 1438 (Fed. Cir. 1988), cert. den., 109 S. Ct. 75, 102 L.Ed. 2d 51 (1988); quoting Interconnect Planning Corp. v. Feil, 774 F.2d 1132, 1132, 227 U.S.P.Q. 543, 535 (Fed. Cir. 1985). Furthermore, "[i]t is impermissible to use the claims as a frame and the prior art references as a mosaic to piece together a facsimile of the claimed invention." Uniroyal, 837 F.2d at 1051, 5 U.S.P.Q. 2d at 1438. Similarly, "[t]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification." In re Laskowski, 871 F.2d 115, 117, 10 U.S.P.Q. 2d 1397,

1398 (Fed. Cir. 1989), quoting In re Gordon, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). No such suggestion is found here.

In addition, the Examiner does not appear to have considered "where the references diverge and teach away from the claimed invention", Akzo N.V. v. International Trade Commission, 808 F.2d 1471, 1481, 1 U.S.P.Q. 2d 1241, 1246 (Fed. Cir. 1986), cert. den., 107 S. Ct. 2490, 482 U.S. 909, 107 S.Ct. 2490 (1987); and W.L. Gore Associates, Inc., 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983); nor has the Examiner read the claims as a whole, as required by statute. 35 U.S.C. §103. See also, Smithkline Diagnostics Inc. v. Helena Laboratories Corp., 859 F.2d 878, 885, 8 U.S.P.Q. 2d 1468, 1475 (Fed. Cir. 1988); and Interconnect Planning Corp., 774 F.2d at 1143, 227 U.S.P.Q. at 551.

In In re Laskowski, 871 F.2d 115, 10 U.S.P.Q. 2d 1397, the Federal Circuit reversed an obviousness rejection of the claims in an application for a bandsaw. The claimed bandsaw used a pulley type wheel loosely fitted with a tire. The primary reference showed a similar bandsaw where the band was tightly fitted. The Federal Circuit stated that the prior art did not provide a suggestion, reason or motivation to make the modification of the reference proposed by the Commissioner. Id. at 1398. The Court added that "there must be some logical reason apparent from the positive, concrete evidence of record which justifies a combination of primary and secondary references." Id. quoting In re Regel, 526 F.2d 1399, 1403, 188 U.S.P.Q. 136, 139 (C.C.P.A. 1975), citing In re Stemniski, 444 F.2d 581, 170 U.S.P.Q. 343 (C.C.P.A. 1971).
In Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 5 U.S.P.Q. 2d 1434 (Fed. Cir. 1988), cert. den., 109 S. Ct. 75, 102 L.Ed. 2d 51 (1988), the Federal Circuit reversed the District Court's finding that the claims for a patent for an air flow deflecting shield were obvious. Without any

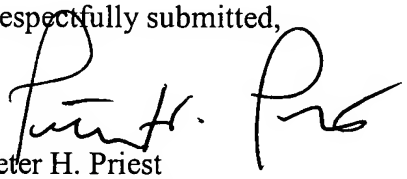
suggestion in the art, the District Court improperly chose features from several prior art references to recreate the claimed invention.

The Examiner's rejection suggests that the Examiner did not consider and appreciate the claims as a whole. The claims disclose a unique combination with many features and advantages not shown in the art. It appears that the Examiner has oversimplified the claims and then searched the prior art for the constituent parts. Even with the claims as a guide, however, the Examiner did not recreate the claimed invention.

8. Conclusion

The rejection of claims 1-16 should be reversed and the application promptly allowed.

Respectfully submitted,



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CLAIMS APPENDIX
(Claims Under Appeal)

1. An electronic shelf label system employing duplex data communication comprising:

a base station including first wireless downlink communication circuitry and first wireless uplink communication circuitry operating in a different mode than the first wireless downlink communication circuitry; and

a plurality of electronic shelf labels, each electronic shelf label including second wireless downlink communication circuitry for receiving messages from the first wireless downlink communication circuitry of the base station, and second wireless uplink communication circuitry for sending messages directly to the first wireless uplink communication circuitry of the base station,

wherein the base station operates to concurrently transmit a first message to a first electronic shelf label and receive a second message from a second electronic shelf label.

2. The system of claim 1, further comprising a computer coupled to the base station via a cable for sending messages to the electronic shelf labels via the first and second wireless downlink communication circuitries, and for receiving messages from the electronic shelf labels via the first and second wireless uplink communication circuitries.

3. The system of claim 1, wherein the first and second wireless downlink communication circuitries communicate at a first frequency and the first and second wireless uplink communication circuitries communicate at a second frequency different than the first frequency.

4. The system of claim 1, wherein the first and second wireless downlink communication circuitries communicate in a first communication band and the first and second wireless uplink communication circuitries communicate in a second communication band different than the first communication band.

5. The system of claim 1, wherein the first and second wireless downlink communication circuitries communicate at a frequency of about 2.4 GHz and the first and second wireless uplink communication circuitries communicate at an infrared frequency.

6. The system of claim 1, wherein the first and second wireless downlink communication circuitries communicate at a frequency of about 2.4 GHz and the first and second wireless uplink communication circuitries communicate through inductive coupling.

7. The system of claim 1, wherein the first and second wireless downlink communication circuitries communicate at a first frequency of about 2.4 GHz and the first and second wireless uplink communication circuitries communicate at a second frequency substantially lower than the first frequency.

8. The system of claim 7, wherein the second frequency is about 400 MHz.

9. An electronic shelf label system employing duplex data communication between a base station and a plurality of electronic shelf labels, the system comprising:

a base station including first wireless downlink communication circuitry and first wireless uplink communication circuitry operating at a substantially lower frequency than the first wireless downlink communication circuitry;

a plurality of electronic shelf labels, each electronic shelf label including second wireless downlink communication circuitry for receiving messages from the first wireless downlink

communication circuitry of the base station, and second wireless uplink communication circuitry for directly sending messages to the first wireless uplink communication circuitry of the base station; and

a computer coupled to the base station via a cable for sending messages to the electronic shelf label via the first and second wireless downlink communication circuitries, and for receiving messages from the electronic shelf label via the first and second wireless uplink communication circuitries,

wherein the base station operates to concurrently transmit a first message to a first electronic shelf label and receive a second message from a second electronic shelf label.

10. A method of duplex data communication between a base station and a plurality of communicating with an electronic shelf labels comprising the steps of:

a) wirelessly sending a first message in a first time period to a first electronic shelf label by utilizing first downlink communication circuitry in the base station;

b) receiving the message utilizing second downlink communication circuitry in the first electronic shelf label;

c) wirelessly sending a response to the base station in a second time period using a different mode of communication utilizing first uplink communication circuitry in the electronic shelf label;

d) receiving the response in a second time period from the first electronic shelf label by utilizing second uplink communication circuitry in the base station; and

e) wirelessly sending a second message during the second time period to a second electronic shelf label utilizing the first downlink communication circuitry in the base station.

11. The method of claim 10, further comprising the steps of:

f) sending the message to the base station through a cable by a computer; and

g) receiving the response through the cable by the computer.

12. A method of concurrently communicating with a plurality of electronic shelf labels comprising the steps of:

a) sending first and second messages to a base station through a cable by a computer;

b) wirelessly sending the first message to a first electronic shelf label using a first frequency and first downlink communication circuitry in the base station;

c) receiving the first message by second downlink communication circuitry in the first electronic shelf label;

d) wirelessly sending a response to the base station at a second frequency different than the first frequency by utilizing first uplink communication circuitry in the first electronic shelf label;

e) receiving the response by second uplink communication circuitry in the base station;

f) transmitting the second message to a second electronic shelf label using the first frequency and first down link communication circuitry in the base station concurrently with said step of receiving the response; and

g) receiving the response through the cable by the computer.

13. The method of claim 10 wherein the first and second wireless downlink communication circuitries communicate at a first frequency and the first and second wireless uplink circuitries communicate at a second frequency different than the first frequency.

14 The method of claim 13 wherein the first frequency is approximately 2.4 GHz.

15. The method of claim 13 wherein the second frequency is approximately 400 MHz.

16. The method of claim 13 wherein the second frequency is an infrared frequency.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.